



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-831-5508

October 30, 1998

James Shaffer, Remedial Project Manager
U.S. Department of the Navy
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway
Code 1823-Mail Stop 82
Lester, PA 19113-2090

RE: Comments on the Human Health Risk Assessment Report for the Derecktor Shipyard, Naval Education and Training Center, Newport, Rhode Island

The Office has reviewed the Human Health Risk Assessment for Derecktor Shipyard, dated 22 June 1998. Attached are comments generated as a result of this review. The comments are numbered to reflect previous comment packages. If the Navy has any questions concerning the above, please contact this Office at (401) 222-2797 ext. 7111.

Sincerely,

A handwritten signature in cursive script that reads "Paul Kulpa".

Paul Kulpa, Project Manager
Office of Waste Management

cc. Warren S. Angell, DEM OWM
Richard Gottlieb, DEM OWM
Kymberlee Keckler, USEPA
Melissa Griffin, NETC

derwohrra.com

**Comments on the
Human Health Risk Assessment
for the Derecktor Shipyard**

**1. Page 2-4, Facility Site Description;
Second Paragraph.**

This section of the report addresses the beach on the southern end of the site. The Preliminary Assessment conducted at the site clearly states that the Derecktor Shipyard Southern Hazardous Waste Storage Area is located adjacent to the beach in question. The report also designates a second nearby area in which waste materials were apparently discarded from a door at the rear of the Assembly Building to such an extent that the soils and the rocks along the beach in the area were stained, (the stained soils and rocks are still present). This area was not addressed during the recent SASE report performed on the Derecktor Shipyard. The State has brought this omission to the Navy's attention and the Navy has agreed to collect samples from the area. In correspondence on the Human Health Risk Assessment Report, dated 27 April 1998, this Office noted that the above areas existed at this site. The discussion of this beach in the Human Health Risk Report does not include these areas and merely states that the proximity of the beach to the site is such that it may have been impacted. It is inappropriate to exclude this information from the report. Therefore the report should be modified as follows: In the upland area immediately adjacent to the beach two potential areas of concern are known to exist. The first is the Derecktor Southern Hazardous Waste Storage Area. The second is an area in which waste materials were apparently discarded from a door at the rear of the Assembly Building to such an extent that the soils and the rocks along the beach in the area were stained.

In correspondence dated September 9, 1998 the Navy stated that "The requested entry will be added to the paragraph in question." The agreed to modification was not found in this Office's copy of the final report. Please make the necessary corrections.

**2. Section 2.2, Data Collection;
Page 2.5, First Paragraph.**

"The hepatopancreas ("Tamale" or liver)) was not included under the lobster ingestion exposure route. The analytical laboratory (URI GSO) cited difficulty with analytical procedures with a material which is so high in lipid content. The fact that the organ tends to accumulate toxins might underestimate the carcinogenic and noncarcinogenic risks for the lobster ingestion exposure pathway. However, the hepatopancreas is also small in size compared with the rest of the edible lobster tissue, therefore, the exposure to the chemicals in this organ is expected to be lower than the rest of the lobster tissue consumed. An additional uncertainty exists for the hepatopancreas exposure regarding the number of individuals who would be expected to consume this organ (expected to be less than 100 % of the individuals exposed)."

The concentration of toxins typically found in the hyptopancreas is such that the size of this organ does not diminish its importance. In addition, this organ is routinely included in the analysis of lobster tissue. Therefore the above should be modified as follows:

The hepatopancreas ("Tamale" or liver) was not included under the lobster ingestion exposure route. This organ is known to bioaccumulate toxins to greater degree than other lobster tissue. As a result, if an organism was exposed to toxins, it would be expected that the concentration of toxins in this organ would be higher than that which was measured in other lobster tissue. Accordingly, this organ is normally analysis along with other lobster tissue or undergoes separate analysis. As this organ was not analysis during this risk assessment the carcinogenic and noncarcinogenic risks for the lobster ingestion exposure pathway may be underestimate. An additional uncertainty exist for the hepatopancreas exposure regarding the number of individuals who would be expected to consume this organ (expected to be less than 100 % of individuals exposed, while other individual increase their exposure by preferentially consuming the tamale). This organ was not analyzed as the analytical laboratory (URI GSO), which performed all other analysis, cited difficulty with analytical procedures with a material which is so high in lipid content. However, commercial laboratories routinely perform analysis on the hyptopancreas.

3. *Appendix E, Discussion of Shellfish Ingestion Rate*

This section of the report states that the shellfish consumption rate is 1.2 g/day and 15.6 g/day for the adult and subsistence fisherman respectively. This issue was previously discussed at length during the review of the McAllister Point Human Health Risk Assessment. At that time it was determined that consumption rate was underestimated. Specifically, it was determined that the consumption rate of 15.6 g/day was appropriate for the adult resident and not the subsistence fisherman. The subsistence fisherman consumption rate was considerable higher. A consumption rate of 80 g/day was applied for the prime harvest months, adult values would be used for the rest of the year. The Navy agreed that the consumption rates underestimated the exposure. However, it was noted that corrections to the Human Health Risk Assessment would delay the process. In the interest of expediting the process and reducing overall cost, and since the Navy acknowledge that the consumption rates were underestimated, the Office did not require changes to the McAllister Point Landfill Risk Assessment. However, all future risk assessment would have to incorporate the higher consumption rate. In correspondence, dated 19 February, 27 April and 3 June 1998, this Office reiterate the previous agreements concerning the shellfish consumption rates. The latest version of the Human Health Risk Assessment Report has not been modified to reflect this agreement.

In Appendix E of this document the Navy acknowledges that the 15.6 g/day is valid for the evaluation of regular ingestion of shellfish. However, the Navy feels that the nature of the site would dictate the use of the 1.2 g/day. In essence the Navy is stating the normal shellfish consumption rate would not be appropriate for this site. Previously, the 1.2 g/day was thought to be the normal shellfish consumption rate. At that time the Navy did not raise any concerns with the use of this rate. In that, the Navy did not feel that a rate, other than the normal shellfish consumption rate, should be applied to the site (i.e. the Navy did not feel that a rate lower than 1.2 g/day should be applied to the site). Therefore, based upon the Navy's stated position, and since site conditions have not changed, the rate of 15.6 g/day is appropriate.

The Navy has also stated that the use of the higher ingestion rate would not result in an

appreciable increase in the risk at the site. To illustrate this point the Navy has provided a table which compares the risk to the subsistence fisherman using both ingestion rates. In this comparison the only consumption rate which generates an appreciable change in the risk is 80 g/day for 365 days per year. It is noted that this rate is greater than that suggested by RIDEM. Therefore, the report concludes that "It is apparent from this brief comparison that even if the maximum ingestion rate described is used, the risk increase is less than one order of magnitude". In essence, the outcome of the risk assessment will not change if the higher consumption rates are used. Accordingly use of the lower consumption rates is appropriate. Application of the Navy's comparison to the other exposure scenarios does result in an appreciable increase in risk, that is, an unacceptable risk is triggered. Specifically, application of the comparison to the adult and child resident generates an unacceptable risk. Therefore, the Navy's position that use of either consumption rate will not appreciable change the risk at the site is not valid. Accordingly, the risk assessment should be calculated using the higher consumption rates.

In this and other correspondence related to the Human Health Risk Assessment, such as the PRG Derivation Document, this Office has questioned the shellfish ingestion rate. As noted in the above, this Office is concerned with the Navy's position since previously for this site, (the Draft Human Health Risk Assessment and Work Plan for said assessment) and other sites, the Navy has proposed using the full shellfish ingestion rate. Currently, the Navy's position is that a percentage of the shellfish ingestion rate should be applied to the Derecktor Shipyard site. However, the Navy has not provided any derivation calculation for determining this percentage. That is, the Navy proposed ingestion rate is 1.9 g/day. This value is equal to 8.2 percent of the total ingestion rate of 15.6 g/day. The Navy has not indicated why they have elected to employ a value of 8.2 % as opposed to any other value 8 %, 10 %, 20 % 50 %, etc. Furthermore, the proposed percentage of the total (1.9 g/day) is equal to what was once thought to be the total ingestion rate (i.e at one time the total ingestion rate was thought to be 1.9 g/day not 15.6 g/day, at that time as indicated by the above the Navy felt comfortable with using the total ingestion rate).

Finally, the Navy has also indicated that risk for the site will not change whether the 1.9 or 15.6 value or higher value is employed. As indicated by the above this Office's calculations does show an increase risk for certain scenarios. Therefore, this Office again reiterates its position that the ingestion rates for the scenarios should be modified.